

SACRO-ILIITIS IN REITER'S DISEASE*

BY

J. K. OATES

From the Whitechapel Clinic, The London Hospital

Involvement of the sacro-iliac joints in Reiter's disease has received little attention in the past. Gounelle and Marche (1941) noted that these joints may be involved, and Marche (1950) devoted a paper to the subject, in which he stated that these joints were commonly affected and estimated that if both clinical and radiological methods of diagnosis were employed the true figure lay between 60 and 80 per cent. of chronic recurring cases. All his patients had the post-dysenteric form of Reiter's disease. Harkness (1950) found that sacro-iliac involvement occurred in only 5.4 per cent. of his series of 126 patients. Romanus (1953) observed that some cases of Reiter's disease were complicated by sacro-iliitis and that the changes found radiologically in the joints were indistinguishable from those found in ankylosing spondylitis. Ford (1953), reviewing patients with chronic relapsing forms of Reiter's disease, found that four had developed the syndrome of ankylosing spondylitis, and that radiological abnormalities were found in the sacro-iliac joints of some of the remaining patients, though not all those in his series were x-rayed. Murray, Oates, and Young (1958) and Reynolds and Csonka (1958) reported two series of patients with Reiter's disease; they found that 38.8 per cent. and 13 per cent. respectively had developed radiographic evidence of sacro-iliac disease.

The sacro-iliac joints are primary synovial joints (MacDonald and Hunt, 1952), and there is no reason to expect them to be exempt from attack in an illness such as Reiter's disease where a polyarthritis is usually the most prominent feature of the condition. Indeed, it may be that there are reasons based upon local anatomical relationships for supposing that these joints may be especially exposed to risk of

involvement. Prostatitis is present in a high percentage of cases of Reiter's disease in the acute stage and in virtually all in the chronic stages (Romanus, 1952; Weinberger, Dienes, and Bauer, 1955; Oates, 1958).

The lymphatic drainage of the prostate is to the glands lying in the hollow of the sacrum and in front of the bodies of the lumbar vertebrae (Hamilton, 1956). So far, no connexion between the prostatic lymphatics and those of the sacro-iliac joints has been demonstrated, but little such work has been undertaken.

That such a connexion exists is virtually certain in view of the common finding of metastases around the sacro-iliac region in patients suffering from carcinoma of the prostate. In addition, the venous system described by Batson (1940) passes from the prostatic region directly over the sacro-iliac joints with which it almost certainly has connexions. Further support for this hypothesis is given by the work of Romanus (1953), who found a very high incidence of chronic prostatitis-vesiculitis in patients with ankylosing spondylitis. He concluded that the genital inflammation was the cause of that condition.

The diagnosis of sacro-iliac disease is difficult to make, for the joint is not easily accessible to physical examination and the movements which are permitted at the articular surfaces are very slight. The symptoms of sacro-iliitis consist chiefly of backache or stiffness, both of which are exceedingly common complaints with a multitude of causes. The nerve supply of the joints is derived principally from the 1st and 2nd sacral nerves and from the superior gluteal nerve (L.4, L.5, and S.1.), and there is possibly a direct contribution from the lumbosacral trunk. This nerve supply explains why the pain of sacro-iliac disease may be so widely referred. It also renders it impossible to distinguish deep pain arising

* Short paper read to the M.S.S.V.D. on January 31, 1958. Received for publication March 10, 1958.

from disease of the sacro-iliac joints from deep pain resulting from lesions involving other structures which also receive their nerve supply from the segments between L.4 and S.2. Root pain in the true sense does not occur unless the lumbo-sacral plexus is directly affected by extension of a disease process from the underlying sacro-iliac joint.

The pain experienced is a dull aching pain commonly localized in the upper medial quadrant of the buttock and posterior aspect of the upper thigh on the affected side. An associated feeling of stiffness across the buttocks and thighs is also often noted. Physical signs are usually minimal and need to be carefully sought; frequently they are absent. Local tenderness just below and medial to the posterior superior iliac spine is sometimes found in the acute stage, and one or more of the many tests for sacro-iliac dysfunction may be positive. These tests usually depend upon an attempt to move the inflamed articular surfaces upon each other. In Reiter's disease, however, localized areas of pain and inflammation, variously described as fasciitis, tendinitis, or myositis, are very common and these areas are often found in the paraspinal and gluteal

muscles. In consequence sacro-iliac tenderness as a physical sign indicating disease of these joints is unreliable.

Radiological study of the sacro-iliac joint is notoriously difficult and considerable experience is required to interpret the findings especially in the early stages of the disease. It has been found that the conventional antero-posterior views of the joints are fairly satisfactory and that better results are sometimes obtained by the employment of a postero-anterior view (Grainger, 1957), supplemented by oblique views if necessary. The radiological examinations in the present series were carried out by Dr. R. S. Murray and Dr. A. C. Young of the Radiographic Department of the London Hospital.

Material

A group of 73 patients suffering from Reiter's disease was studied, and views of the sacro-iliac joints were obtained in all cases. Changes were seen in 36 (49.3 per cent.); these were very similar to those found in ankylosing spondylitis, the lesions being usually irregularly distributed, but most commonly seen in the lower, predominantly synovial

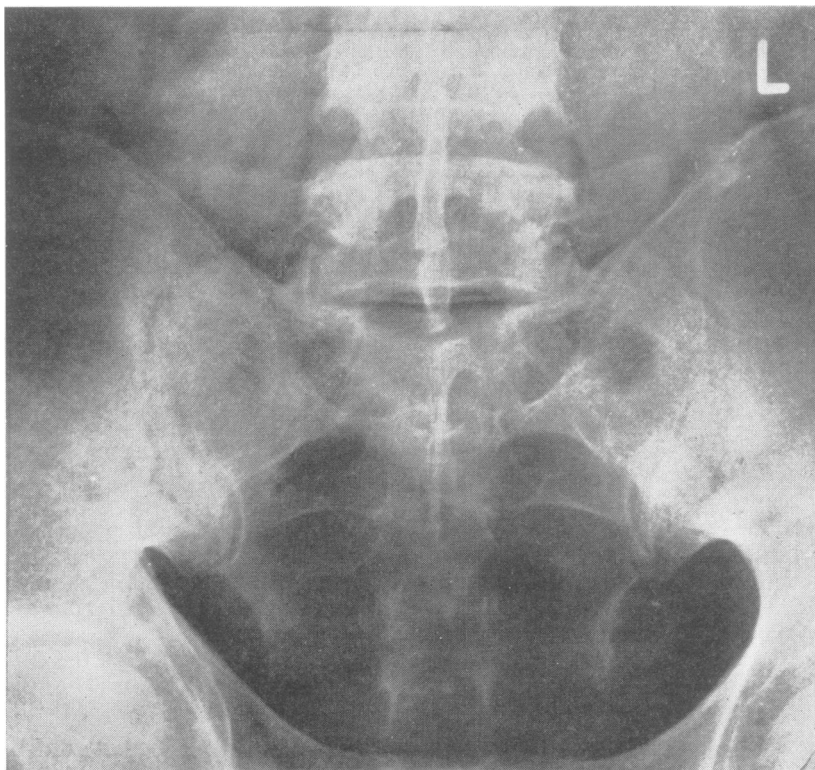


FIG. 1.—Bilateral changes in the sacro-iliac joints in a man aged 40. Erosive and sclerotic changes are clearly seen.

portion of the joint. The earliest change noted was loss of the sharp "cortical line" leading to a blurred appearance of that portion of the joint. Later, erosions developed with varying degrees of sclerosis (Figs 1 and 2).

In a few cases bony bridging was seen, and in several complete fusion of the joints had occurred. The changes were bilateral in 69 per cent. of cases with joint involvement, and the unilateral changes in the remaining 30.5 per cent. were of the same type and distribution. It is interesting to note that in only one of the 73 patients was calcification of the paraspinal ligaments present—a characteristic finding in classical Marie-Strümpell disease.

A comparison of the average duration of disease in the two groups, calculated by the time elapsing between the onset of the first episode of arthritis and the time of study, showed that it was 12.6 years in the group with radiological abnormalities in the sacro-iliac joints, but only 4.8 years in the patients with normal sacro-iliac joints. This might suggest that the longer the duration of the disease the more likely it is that the sacro-iliac joints will be affected, implying that the process is a slow and chronic one.

In fact, however, in several cases radiographic changes have been observed to appear in the course of a few weeks. Such rapid radiographic progression is well recognized in some cases of rheumatoid and pyogenic arthritis. It seems probable that each recurrent active episode of the disease carries with it a risk of sacro-iliac involvement and patients with recurrent attacks are therefore likely to show a higher incidence of sacro-iliac disease. However, the majority of cases probably do develop as the result of a chronic, slowly progressive disease process operating over a period of months or years. Of the 73 patients, 21 complained of backache as a significant feature of their illness. Of 36 later found to have sacro-iliitis, 16 or 44 per cent. had backache, but in only five (13.5 per cent.) of those without evidence of sacro-iliitis was this symptom apparent.

A striking difference is seen when the incidence of anterior uveitis in the two groups is compared. Thus 33 per cent. of the patients with sacro-iliac joint disease suffered from attacks of iridocyclitis, compared with only 8.1 per cent. in the group with normal joints (Table, overleaf).

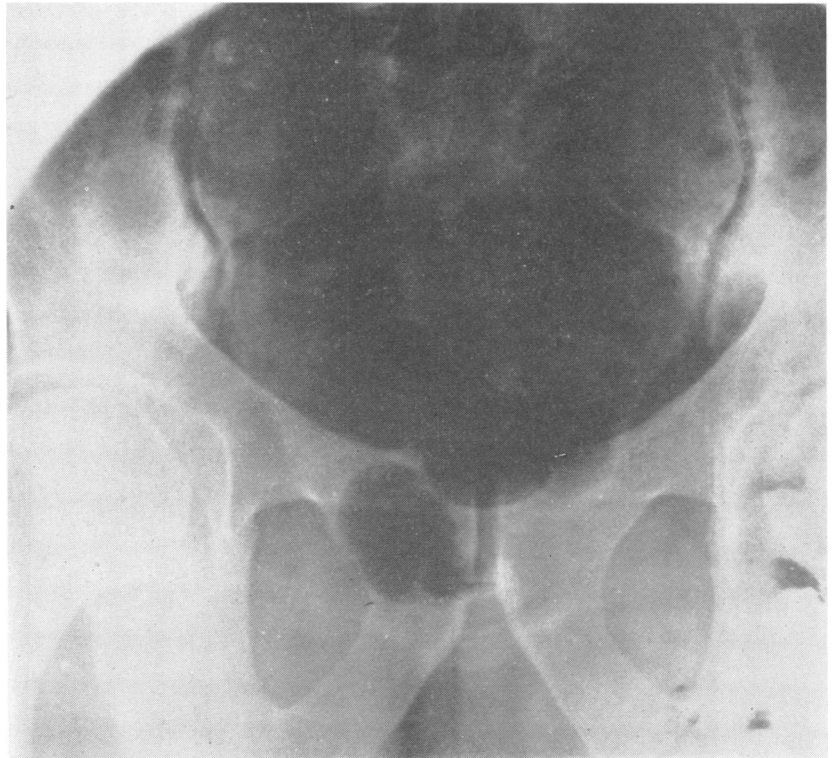


FIG. 2.—Early erosive changes in the left sacro-iliac joint.

TABLE

INCIDENCE OF IRITIS AND SACRO-ILIAC JOINT DISEASE

Sacro-iliac Joints		Iritis	Attacks of Iritis
Diseased	36	12 (33.3%)	62
Normal	37	3 (8.1%)	6
Total	73	15	68

Furthermore, in a number of the patients in the first group, the attacks of iritis were recurrent. It seems clear that involvement of the sacro-iliac joints and attacks of iritis are frequently associated. These attacks of uveitis may recur over a period of years as the sole overt manifestation of Reiter's disease, and special attention should be paid to the possibility that Reiter's disease may be the underlying cause of cases of recurrent iritis in the male. It is very well recognized that Reiter's disease may show all or only two of the three chief components of the triple syndrome. The arthritis is frequently monarticular and observation of a number of patients suggests that a further fairly common but little recognized variant of the disease exists, in which iritis, arthritis of the sacro-iliac joints, and genital infection are the sole manifestations. In these patients the genital infection is most commonly present as a chronic prostatitis. Backache may not be present, or may be disregarded by the patient who does not see that it is in any way relevant to his chief complaint; it cannot be assumed that backache is absent unless the patient has been specifically asked about this symptom. Genital infection is invariably present and, as previously stated, is far more commonly present as a chronic prostatitis than as urethritis. In some cases polyarthritis, with or without associated conjunctivitis, may occur at a later date.

Summary

(1) Sacro-iliac disease demonstrable radiographically is common in Reiter's disease. Involvement without radiographic change is almost certainly even commoner. Special attention should be paid in cases of Reiter's disease to the presence, site, and distribution of backache which may lead to the diagnosis of sacro-iliac disease.

(2) Sacro-iliac disease is frequently associated with recurring attacks of iritis. The presence of sacro-iliac disease should always lead to the giving of a guarded prognosis owing to the liability of recurrent attacks of iritis.

(3) It is probable that a little recognized form of Reiter's disease exists, comprising iritis, sacro-iliac arthritis, and genital infection. The last two components are often asymptomatic or unrecognized.

(4) The occurrence of an unexplained attack of iritis in the male should always lead to inquiry as to the presence of a past history of Reiter's disease or its components. Evidence both of sacro-iliac disease and genital infection should be carefully sought. This is especially important in patients with recurrent attacks of iritis.

REFERENCES

- Batson, O. V. (1940). *Ann. Surg.*, 112, 138.
 Ford, D. K. (1953). *Brit. J. vener. Dis.*, 29, 123.
 Gounelle, H., and Marche, J. (1941). *Rev. rhum.*, 8, 335, 415.
 Grainger, R. G. (1957). *Proc. roy. Soc. Med.*, 50, 854.
 Hamilton, W. J., ed. (1956). "Textbook of Human Anatomy", p. 391, 393. Macmillan, London.
 Harkness, A. H. (1950). "Non-Gonococcal Urethritis", p. 106. Livingstone, Edinburgh.
 Marche, J. (1950). *Rev. rhum.*, 17, 449.
 MacDonald, G. R., and Hunt, T. E. (1952). *Canad. med. Ass. J.*, 66, 157.
 Murray, R. S., Oates, J. K., and Young, A. C. (1958). *J. fac. radiol.*, 9, 37.
 Oates, J. K. (1958). Unpublished data.
 Reynolds, D. F., and Csonka, G. W. (1958). *J. fac. radiol.*, 9, 44.
 Romanus, R. (1952). *Nord. med.*, 48, 1024.
 — (1953). *Acta med. scand.*, Suppl. 280, p. 178.
 Weinberger, H. J., Dienes, L., and Bauer, W. (1955). "Rheumatic Diseases", pp. 73–77. Saunders, Philadelphia.